

# ▶ Pennsylvania TSA A Premier CTSO

## **Pennsylvania TSA A Premier Career and Technical Student Association**

**Dennis C. Gold  
PA TSA Facilitator**



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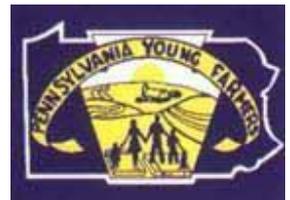
## What is TSA?

TSA is one of eight Career and Technical Student Organizations. It started as American Industrial Arts Student Association (AIASA) in 1978. The Technology Student Association fosters personal growth, leadership and opportunities in technology, innovation, design and engineering. Middle and high school members apply and integrate science, technology, engineering and mathematics concepts through co-curricular activities, competitive events and related programs.

**“Preparing students for the challenges of a dynamic world by promoting technological literacy.”**

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## TSA is One of Eight CTSOs



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## **Why Join TSA? Opportunity!**

- NAEP technology and engineering literacy (TEL) assessment
- Premier STEM and Career and Technical Student Organization
- High growth rate of STEM and non-traditional occupations
- Individual and team work promoting personal development
- Improves students' career options with new occupations everyday
- Develop leadership skills while receiving awards and recognition

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## **Why Join TSA? Opportunity!**

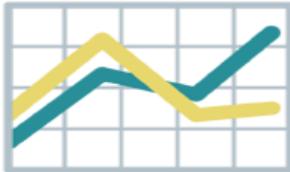
- Enhance technological literacy with leadership skills being a priority
- Regional, state and national conferences with 50 events to excel
- Students gain enthusiasm and inspiration while applying knowledge
- TSA's honor society, scholarships and achievement programs
- Network with students, teachers, and business leaders
- Opportunity, Success & Excitement being part of 200,000 students

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## Pennsylvania TSA At The 2012 National Conference

| <b>Middle School Events</b>                 | <b># of Events</b> | <b>% of Total</b> |
|---|--------------------|-------------------|
| <b>Events with 1-3</b>                      | <b>7</b>           | <b>22%</b>        |
| <b>Events with 4-10</b>                     | <b>10</b>          | <b>31%</b>        |
| <b>Events with none</b>                     | <b>12</b>          | <b>38%</b>        |
| <b>Events with 1-3 and 4-10</b>             | <b>4</b>           | <b>13%</b>        |
| <b>Total</b>                                | <b>32</b>          | <b>100%</b>       |
| <b>An award 67% of the events available</b> |                    |                   |
| <b>High School Events</b>                   | <b># of Events</b> | <b>% of Total</b> |
| <b>Events with 1-3</b>                      | <b>4</b>           | <b>11%</b>        |
| <b>Events with 4-10</b>                     | <b>16</b>          | <b>46%</b>        |
| <b>Events with none</b>                     | <b>7</b>           | <b>20%</b>        |
| <b>Events with 1-3 and 4-10</b>             | <b>8</b>           | <b>23%</b>        |
| <b>Total</b>                                | <b>35</b>          | <b>100%</b>       |
| <b>An award 80% of the events available</b> |                    |                   |

## Pennsylvania TSA Is Growing



- 4<sup>th</sup> Largest TSA State Membership – Chapters  
54 middle and 105 high schools = 159 chapters
- 3<sup>rd</sup> Largest TSA School State Membership – 30,353
- 159 Chapters - up from 92 in 2005 – 72.8% increase
- Pennsylvania received three national TSA membership awards

As of 4/18/2014

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## Career Clusters



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## National TSA 2013-14 Officers

|                   |                                       |
|-------------------|---------------------------------------|
| President:        | Sanjay Koduvalli, Iowa                |
| Vice-President:   | Sri Nimmagadda, Washington            |
| Secretary:        | Elizabeth (E.B.) Bollendonk, Colorado |
| Treasurer:        | Sai Nimmagadda, Washington            |
| Reporter:         | Hughston May, Alabama                 |
| Sergeant-at-Arms: | Melissa Haslebacher, West Virginia    |

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## **Pennsylvania TSA 2013-14 Officers**



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## Pennsylvania TSA 2014-15 Officers

| <b>First</b>                  | <b>Last</b>      | <b>Title</b>            | <b>School</b>                              |
|-------------------------------|------------------|-------------------------|--|
| <b>Ben</b>                    | <b>Cutler</b>    | <b>President</b>        | <b>Conestoga Valley High School</b>        |
| <b>Luke</b>                   | <b>Artzt</b>     | <b>Vice-President</b>   | <b>Stroudsburg High School</b>             |
| <b>Lisa</b>                   | <b>Gardner</b>   | <b>Secretary</b>        | <b>Lower Merion High School</b>            |
| <b>Mathi</b>                  | <b>Tamilmani</b> | <b>Treasurer</b>        | <b>Downingtown STEM Academy</b>            |
| <b>Morgan</b>                 | <b>Lepre</b>     | <b>Reporter</b>         | <b>Boyertown Area Senior High School</b>   |
| <b>Bethany</b>                | <b>Barbis</b>    | <b>Sergeant-at-Arms</b> | <b>Conemaugh Valley High School</b>        |
| <b>Chirag</b>                 | <b>Agarwal</b>   | <b>Parliamentarian</b>  | <b>Plymouth Whitemarsh High School</b>     |
| <b>Daphne</b>                 | <b>Wiess</b>     | <b>Historian</b>        | <b>South Western High School</b>           |
| <b>Mr. and Mrs.<br/>Clint</b> | <b>Rickert</b>   | <b>Advisors</b>         | <b>Plymouth Whitemarsh School District</b> |

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## Recent National TSA Initiatives

- Tests of Engineering Aptitude, Mathematics and Science (TEAMS)
- Junior Solar Sprint (JSS)
- A four to six week pre-collegiate summer program (UNITE)
- Army Educational Outreach Program (AEOP)
- Engineering Alliance (AE) with Project Lead the Way (PLTW)
- Verizon Innovative Application Challenge Partnership

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## A CTSO and TSA Benefits Students

- CTSO positively affected grades, academic engagement, and academic/job skills.
- CTSO program students aspire more often to two year colleges, compared to the general comparison group of students who aspire more often to four year colleges.
- CTSO students were more involved in extra-curricular activities
- CTSO students work more hours than other students
- CTSO students have higher certainty of job choice
- College aspirations may be more realistic and adaptive to a technical career
- Helps with variables to keep students in school and focus on a future



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## **National TSA Assists**

In the growth and development of its state delegations by promoting and managing these items/activities:

- Curriculum-based programs
- A national conference and a competitive events program
- The “School Scene” newsletter and other publications
- Award and recognition programs
- Scholarship and achievement programs
- National officer program
- online access to member resources on TSA’s website
- Assistance to state delegations and local chapters
- National service project: American Cancer Society

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## **Pennsylvania TSA Assists**

- In the growth and development of its regions and chapters with its student officers, TSA facilitator, and board of directors
  - Partnerships with community and business
  - Regional and state conferences
  - The "PA Post" student newsletter
  - Awards, recognition, scholarships, and achievement programs
  - Regional and state officer programs
  - Pennsylvania TSA internet site: [www.patsa.org](http://www.patsa.org)
  - Alumni chapter
  - Technology Education and Engineering Association of PA
  - Assistant to chapters

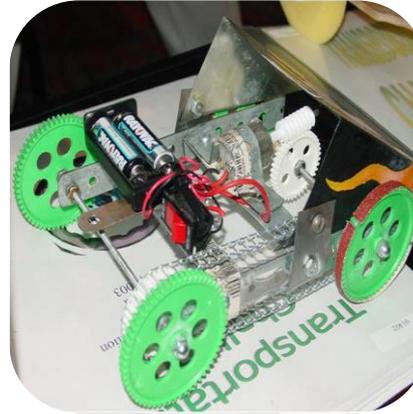
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## TSA Competition Samples

Engineering Design



Transportation Challenge



Structural Engineering



F1 in Schools Challenge



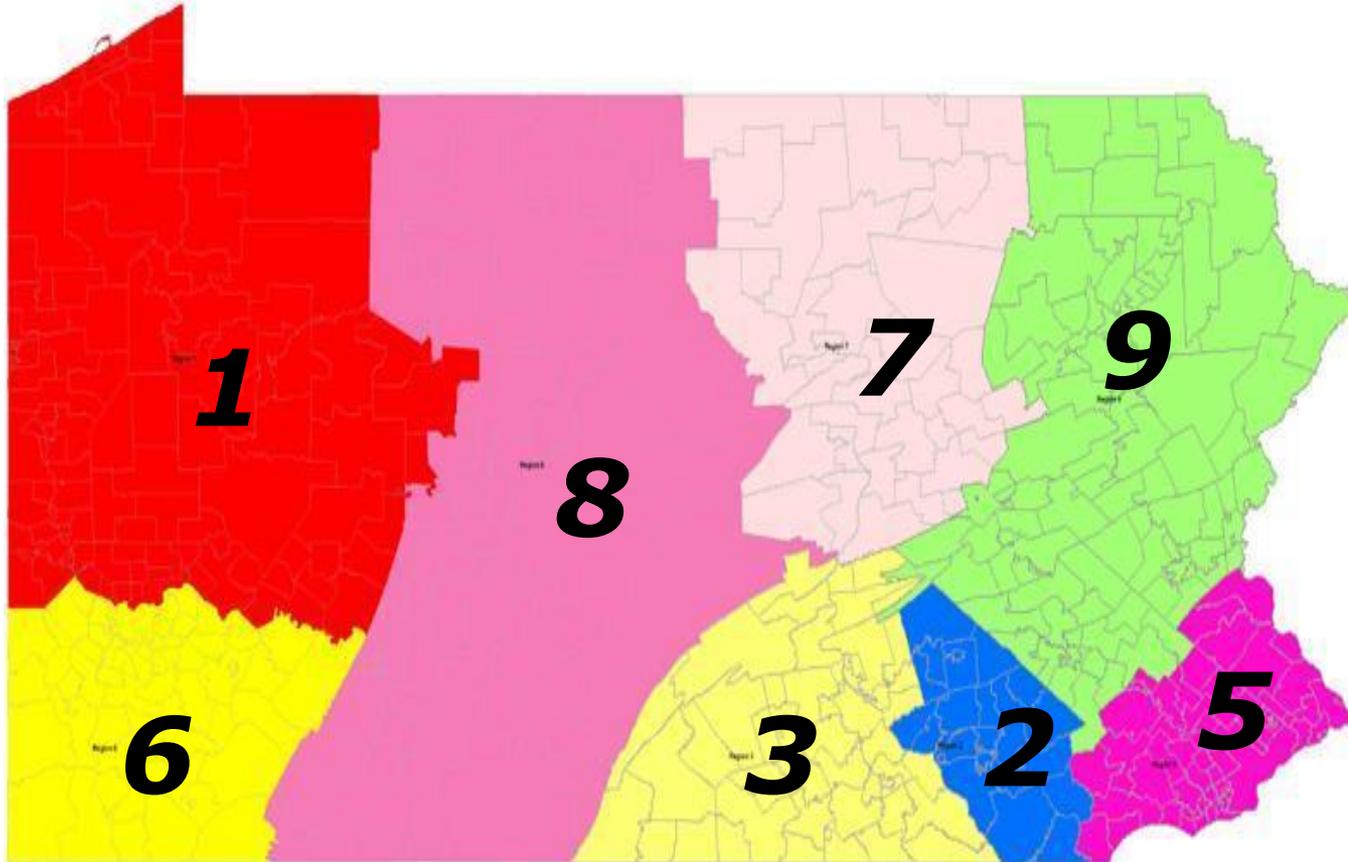
# **Pennsylvania TSA Green**

## **Mission Statement**

The **PA-TSA Green Initiative** promotes environmental awareness and activism within the PA-TSA organization and aspires to expand efforts to TSA members state wide, nationally, and internationally.

<http://patsa.org/programs/green-initiative>

# PENNSYLVANIA TSA REGIONS



## National Competitive Events For Students in High School

Animatronics  
Architectural Renovation  
Biotechnology Design   
Career Preparation  
Chapter Team  
Computer-Aided Design (CAD)  
    2 D. Architecture   
Computer-Aided Design (CAD)  
    2D, Architecture  
    3D, Engineering  
Computer Numerical Control  
    (CNC) Production  
Debating Technological Issues   
Desktop Publishing   
Digital Video Production   
Dragster Design  
Engineering Design  
Essays on Technology   
Extemporaneous Presentation   
Fashion Design

Flight Endurance  
Future Technology Teacher  
Manufacturing Prototype  
Music Production   
On Demand Video  
Open Source Software  
    Development  
Photographic Technology  
Prepared Presentation   
Promotional Graphics  
SciVis   
Structural Engineering  
System Control Technology   
Technical Sketching and Application  
Technology Bowl  
Technology Problem Solving  
Transportation Modeling  
Video Game Design   
Webmaster  
 National Qualifying Events

## National Competitive Events For Students In Middle School

Agriculture and Biotechnology

Issues 

Career Prep

Challenging Technology Issues 

Chapter Team

Communication Challenge

Community Service Video

Construction Renovation

Digital Photography 

Dragster

Electrical Applications

Energy Sources \*

Environmental Focus

Essays on Technology 

F1 in Schools (independent event)

Flight

Geospatial Technology \*

Go Green Manufacturing

Inventions and Innovations

Jr. Solar Sprint\*

Leadership Strategies

Medical Technology Issues 

Multimedia Production

Prepared Speech

Problem Solving

Promotional Design

Structural Engineering

System Control Technology 

Technology Bowl

Technical Design

Technical Design

Transportation Systems

Video Game Design

Water Infrastructure

Website Design

 National Qualifying Events

\* New

## Events From Pennsylvania TSA

Bio-Medical Career Essay – MS/HS  
Calculator-Controlled Robots – MS  
Computer-Aided Drafting/Design – MS  
Computer System and Troubleshooting – HS  
Delta Dart Glider – MS  
Digital Video Challenge B/W – MS  
Electronic Research and Experimentation – HS  
Logo Design – MS/HS  
Material Processes – MS/HS  
Mechanical Challenge – MS  
PA-TSA R/C Drag Racing– MS/HS  
Robotics – MS/HS  
Safety Illustration Computer Graphics – MS/HS  
Snapshot – MS

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| <b>EVENTS</b>      | <b>DATES</b>         | <b>LOCATIONS</b>                                   |
|--------------------|----------------------|--|
| <b>Regions 1/6</b> | January 14, 2015 H/S | Pittsburgh Technical Institute,<br>Oakdale, PA     |
| <b>Regions 1/6</b> | January 15, 2015 M/S | Pittsburgh Technical Institute,<br>Oakdale, PA     |
| <b>Region 2</b>    | February 7, 2015     | Conestoga Middle School<br>Lancaster, PA           |
| <b>Region 3</b>    | February 14, 2015    | Boiling Springs High School<br>Boiling Springs, PA |
| <b>Regions 5/9</b> | TBD                  |  |
| <b>Region 7</b>    | February 28, 2015    | Jersey Shore Area High School<br>Jersey Shore, PA  |
| <b>Region 8</b>    | January 31, 2015     | Park Forest Middle School<br>State College, PA     |

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## **EVENTS DATES LOCATIONS**

### **ITEEA**

**Conference**

March 26-28, 2015

Milwaukee, WI

**PA TSA State**

**Conference**

April 15 - 18, 2015

Seven Springs Resort

**National TSA**

**Conference**

June 22- July 2, 2015

Grapevine, TX

**Summer Leadership**

**Conference**

July 7 -8, 2014

Bucknell University, PA

**TEEAP**

**Conference**

November 6 - 7, 2014

Radisson Hotel, Camp Hill, PA

**Integrated Learning**

**Conference**

November 5 - 7, 2014

Penn Stater, State College, PA

## National TSA Membership Levels

**Red Chapter Affiliation Program (Red CAP)** A chapter affiliates up to ten members by paying a flat fee (additional members may be added during the year for a fee). The membership fee for Red CAP is \$90 at the national level plus \$6 each for state dues. Advisor membership is \$10.

**White Chapter Affiliation Program (White CAP)** A chapter affiliates eleven or more members by paying a per member White CAP fee for state and national dues. The membership fee for White CAP is \$9 per member at the national level plus \$6 each for state dues. Advisor membership is \$10.

**Blue Chapter Affiliation Program (Blue CAP)** A chapter affiliates an unlimited number of members in a school for a flat fee (typically effective when there are more than 25 members). This option is popular in chapters where students rotate through a STEM class for a portion of the year to enable all students to be members. The membership fee for Blue CAP is \$350 at the national level plus \$100 state dues. Advisor membership is \$10.

# PA AND NATIONAL CONFERENCES

**2015 Pennsylvania TSA State Conference** April 15 – April 18, 2015

Seven Springs Mountain Resort  
777 Waterwheel Drive, Seven Springs, PA 15622 | 800-452-2223

**2015 National TSA Conference** June 28 - July 2, 2015

Gaylord Texan Resort & Convention Center  
Grapevine, TX

**Conference Theme: "Designing Your Dreams"**

- Competitive Events
- Business Meetings
- Delegate Assemblies
- Leadership Training Sessions
- Special Interest Sessions
- Social Activities

## TSA In Schools

Organizing a local chapter of TSA in a technology education program at your school involves many factors.

- An alert and vigorous membership
- An interested instructor/advisor
- A good working team of chapter officers
- The cooperation of the school administration

**The most important factors to success are the teamwork and interest of the members and their determination to make *their* chapter a success**

## Suggested Chapter Activities

### Scholastic/Educational Activities

- Explore topics in technology as part of a working group
- Attend and compete in state and national conferences
- Visit technology firms
- Sponsor guest speakers, films, exhibits, etc.
- Recognize outstanding faculty
- Practice parliamentary procedure

### Professional Leadership

- Hold regular chapter meetings
- Elect/serve as chapter officers
- Produce chapter newsletter
- Participate in official ceremonies
- Arrange assembly programs

## Suggested Chapter Activities

### **Civic and Community**

- Visit state government
- Participate in community fund drives, safety campaigns, clean-up campaigns, etc.
- Assist other school groups and work on school improvement projects

### **Social**

- Welcome new members
- Plan cookouts, dances, hayrides, picnics, etc.
- Sponsor athletic activities
- Plan a talent night, skating party, scavenger hunt, etc.

## Suggested Activities

### Winter

- Register and attend regional conferences
- Raise funds
- Keep parents and administration informed
- Work on trip forms and transportation
- Collect dues
- Complete events
- Share information with parents
- Continue to hold meetings
- Assist students with their events
- Have guest speakers
- Order TSA items for conferences

## Suggested Activities

### Early Fall

- Elect and train officers
- Calendar of Events
- Discuss funding issues
- Work on trip forms
- Collect and pay dues
- Assign competitive events
- Share information with parents and administration
- Determine goals for year
- Promote safety
- Have a TSA speaker
- Establish committees
- Integrate events with other courses
- Procure official TSA clothing

## Suggested Activities

### Spring

- Prepare and attend state TSA conference
- Prepare for National TSA conference
- Discuss funding issues
- Work on trip forms
- Assign competitive events
- Share information with parents
- Determine goals for next year
- Promote safety
- Have a TSA speaker
- Prepare for a end of year event
- Recognize outstanding students
- Thank administration and parents

## Suggested Activities

### Summer

- Register for summer conferences
- Keep parents and administration informed
- Work with new officers
- Collect dues
- Prepare curriculum
- Brain storm with students and administration for improvement

# NATIONAL STANDARDS IN EVENTS

**S**CIENCE  
**T**ECHNOLOGY  
**E**NGINEERING  
**M**ATHEMATICS

# LEADERSHIP SKILLS STANDARDS

The following leadership skills are derived from the Technology Content Standards of the International Technology Education Association (ITEEA) publication: ITEEA Standards for Technological Literacy, Content for the Study of Technology, 2000.

**Creative Thinking**  
**Communication**  
**Ethical (Ethics)**  
**Organization**  
**Self Esteem**

**Critical Thinking**  
**Decision Making**  
**Evaluation**  
**Problem Solving**  
**Teamwork**

# COMPETITIVE EVENTS CONTENT

***OVERVIEW***

***ELIGIBILITY***

***ATTIRE***

***REGULATIONS***

***NOTES***

***LEADERSHIP SKILLS***

***JUDGES***

***RESPONSIBILITIES***

***PURPOSE***

***TIME LIMITS***

***PROCEDURE***

***EVALUATION***

***STEM INTEGRATION***

***CAREERS RELATED TO EVENT***

***MATERIALS***

***EVALUATION RUBRIC***

# **Pennsylvania TSA Partners**

**Allegheny Educational Systems**

**American Cancer Society**

**Autodesk**

**Chief Architect**

**G-W Publishers**

**Hi-tech, Inc.**

**International Technology and Engineering Educators Association**

**Pennsylvania STEM**

**Pennsylvania Society for Biomedical Research**

**Pittsburgh Technology Council**

**Technology and Engineering Education Association of PA  
(TEEAP)**

**Technology Council of Central Pennsylvania**

**The Clark Associates Companies**

**US Army**

# **Pennsylvania TSA Partners**

**Bradford School**

**California University**

**Douglas Education Center/Thaddeus Stevens College**

**Dubois Business College**

**DeVry University**

**Harrisburg University**

**Johnson and Wales University**

**Millersville University**

**Pittsburgh Technical Institute**

**York Technical Institute**

**For additional information, please  
contact Dennis Gold or National TSA**

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